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MAR 21 1977

ENVIRONMENTAL PROTECTION AGENCY  
DIVISION OF WATER POLLUTION CONTROL  
PERMIT SECTION - SPRINGFIELD  
STATE OF ILLINOIS

M E M O R A N D U M

RECEIVED  
Field Operations Section

MAR 18 1977

Environmental Protection Agency  
State of Illinois

TO: DWPC-Field Operations Section/Records Unit

FROM: Larry L. Bishop - Region 5

SUBJECT: PERRY COUNTY - Fidelity Mine #11  
Freeman United Coal Mining Company  
Mine Drainage

DATE: February 4, 1977

On the above date, I made an inspection of the Fidelity Mine #11 located west of DuQuoin. During the investigation, I was accompanied by Mr. Paul Seastrom, Land Reclamation Supervisor for the strip mine operations for Freeman United Coal Mining Company. Drainage from the Fidelity Mine #11 flows to Beaucoup Creek in the Big Muddy Basin.

We first proceeded to the north active section of the mine property. In this area, we attempted to collect a sample below the mine drainage courses. This is the Panther Creek discharge. On this date, there was a considerable amount of ice cover on the Panther Creek sampling point and an adequate sample could not be collected. I drove around the active mining operation and the haul road and observed no pumpages directly from the active pit into the mine drainage stream. Mr. Seastrom stated that they were attempting to pump at this time, but due to the adverse weather conditions, the pumps were not operating properly.

We then drove to the south mining field where a new pit is being opened. This area is permitted. A box cut is being opened in an east-west cut located south of the Fidelity farm building. Refuse is still being deposited in this general location in an incline area resulting from past mining operations. This area will then be covered over with surrounding spoil material upon completion.

A sample was collected at the Barbara Mill discharge. There was a flow of several hundred gpm at this point. The water was clear and the stream bed appeared normal. Laboratory analysis of the sample collected is listed below:

LAB. #A15701

Iron (Total)	0.4 mg/l	Alkalinity	285 mg/l
Manganese	3.0 mg/l	Total Acidity	0 mg/l
Sulfate	2500 mg/l	R.O.E.	3880 mg/l
pH	7.7		

EPA Region 5 Records Ctr.



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PERRY COUNTY - Fidelity Mine #11  
 Freeman United Coal Mining Company  
 Mine Drainage

We then proceeded to the Lake of the Pines discharge approximately one-half mile east of the Barbara Mill sampling point. This point is from an abandoned strip pit area which was operated by Freeman United Coal Mining Company. The flow at this point was considerably less than observed on previous sampling visits. The latest NPDES monitoring reports submitted for this discharge showed an iron concentration slightly above the allowable limits. However, the sample collected on this date had an iron concentration of 2.4 mg/l, indicating the discharge was now in compliance. The reason for the low flow at this point on the date the sample was collected could not be determined. This discharge usually has a flow of several hundred gpm. Laboratory analysis of the sample collected is listed below:

LAB. #A15702

Iron (Total)	2.4 mg/l	Alkalinity	270 mg/l
Manganese	7.4 mg/l	Total Acidity	0 mg/l
Sulfate	1940 mg/l	R.O.E.	3350 mg/l
pH	7.3		

We then drove to the new mine area located south of the Fidelity farms building. This area is being developed and is in the box cut stage. Any pumpage from the active mining operation is discharged into the water circuit for the preparation plant and is recirculated through the slurry pond system.

Following the inspection of the new mine area, the investigation was completed.

*Larry L. Bishop*  
 Larry L. Bishop  
 Environmental Protection Specialist

LLB:mg  
 3/11/77

## SPECIAL ANALYSIS FORM

(2)

Time Collected 11:45 A.M.Sub-Basin Region 5Date Collected Feb 4, 77Collector Larry L. Bishop

Facility Name: \_\_\_\_\_ Facility Number: \_\_\_\_\_

File Town Perry CountyStream Name(s) Fish Lake #11 Stream Code NCCASource of Sample (Exact Location) Big Muddy, Beaumont, Walker, Youngs, Lake & River DischargePhysical Observations, Remarks: water clear, seed over

Flow <u>~259 cpm</u>	Field Dissolved Oxygen	Field pH	Field Temp.
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Arsenic	Coliform/100ml	BOD
Barium	Fecal Coliform	COD
Boron	100 ml	<u>★</u> TS/EC
Cadmium	Fecal Strep	Susp. Solids
Copper	100 ml	Vol. Susp. Solids
Chromium (tri)	Algae (Total) /ml	<u>7.3</u> pH (units)
Chromium (hex)	Ammonia (N)	Turbidity (JTU)
<u>2.4</u> Iron (Total)	Organic Nitrogen (N)	Hardness
Iron (Dissolved)	Nitrate + Nitrite (N)	<u>270</u> Alkalinity
Lead	Phosphorus (P)	<u>0</u> Total Acidity
<u>7.4</u> Manganese	Chloride	Free Acidity
Mercury (ppb)	Fluoride	Oil
Nickel	<u>1940</u> Sulfate	<u>3350</u> ROE Other (Specify)
Selenium	Cyanide	
Silver	MBAS	
Zinc	Phenol (ppb)	

Results in mg/l unless otherwise noted.

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Transported by: Larry L. Bishop

Received by: \_\_\_\_\_

Transported by: \_\_\_\_\_

Received by: \_\_\_\_\_

FOR LAB USE ONLY Meri

Lab Number: A15702 Rec'd by: Ston

Date sample rec'd: FEB 4 1977 Time: 4:00

Date analysis completed: FEB 22 1977

Date results forwarded: FEB 22 1977

Total Tests requested: 6 Tests run: 6

Lab Section: **MARION** Supervisor: John

## SPECIAL ANALYSIS FORM

①

Time Collected 11:30 A.M.Sub-Basin Region 5Date Collected Feb 4, 77Collector Larry L. Bishop

Facility Name: \_\_\_\_\_ Facility Number: \_\_\_\_\_

File Town \_\_\_\_\_

Stream Name(s) Fidelity #11Stream Code Perry County~~NCCA Big Muddy~~ Beaucamp Water, Youngs NCCASource of Sample: (Exact Location) Barbara mill dischargePhysical Observations, Remarks: water clear, feel normalFlow several hundred Field Dissolved Oxygen \_\_\_\_\_ Field pH \_\_\_\_\_ Field Temp. \_\_\_\_\_

_____ Arsenic	_____ Coliform/100ml	_____ BOD
_____ Barium	_____ Fecal Coliform	_____ COD
	100 ml	
_____ Boron	_____ Fecal Strep	<u>TS/EC</u>
	100 ml	
_____ Cadmium	_____ Algae (Total) /ml	_____ Susp. Solids
_____ Copper	_____ Ammonia (N)	_____ Vol. Susp. Solids
_____ Chromium (tri)	_____ Organic Nitrogen (N)	<u>77</u> <u>pH (units)</u>
_____ Chromium (hex)	_____ Nitrate + Nitrite (N)	_____ Turbidity (JTU)
<u>0.4</u> <u>Iron (Total)</u>	_____ Phosphorus (P)	_____ Hardness
_____ Iron (Dissolved)	_____ Chloride	<u>185</u> <u>Alkalinity</u>
_____ Lead	_____ Fluoride	<u>0</u> <u>Total Acidity</u>
<u>3.0</u> <u>Manganese</u>	<u>2500</u> <u>Sulfate</u>	_____ Free Acidity
_____ Mercury (ppb)	_____ Cyanide	_____ Oil
_____ Nickel	_____ MBAS	<u>3880</u> <u>POE</u> <u>Other (Specify)</u>
_____ Selenium	_____ Phenol (ppb)	
_____ Silver		
_____ Zinc		

Results in mg/l unless otherwise noted.

100% Recycled Paper

Transported by: Larry L. Bishop

Received by: \_\_\_\_\_

Transported by: \_\_\_\_\_

Received by: \_\_\_\_\_

FOR LAB USE ONLY

Lab Number: 115701 Rec'd by: StansDate sample rec'd: FEB 4 1977Date analysis completed: FEB 22 1977Date results forwarded: FEB 22 1977Total Tests requested: 6 Tests run: \_\_\_\_\_Lab Section: MARION Supervisor: John